

TRANSLATING WEST AFRICAN STRATEGY WITH AIRPOWER MEANS: A
QUALITATIVE COMPARISON OF TACTICAL AIRLIFT
SHAPING OPERATIONS

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MASTER OF MILITARY ART AND SCIENCE
Strategic Studies

by

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ABSTRACT

TRANSLATING WEST AFRICAN STRATEGY WITH AIRPOWER MEANS: A QUALITATIVE COMPARISON OF TACTICAL AIRLIFT SHAPING OPERATIONS, by Maj Matthew C. Wunderlich, 78 pages.

American national interests in West Africa require the prudent investment of military resources and capabilities to establish African capacity and build enduring regional partnerships. This study analyzes the relationship between strategic ends and tactical means by asking the primary research question, “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” Answering this question requires an understanding of American policy for West Africa, presenting existing shaping operations doctrine, and clarifying tactical airlift capabilities. A qualitative case study comparison of Operation Vittles and Operation Provide Relief synthesizes critical components of tactical airlift shaping operations applicable to future missions in West Africa. The research analysis concludes that tactical airlift shaping operations could successfully achieve national-level strategic ends in West Africa by meeting specific screening criteria and establishing effectiveness-oriented capabilities.

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ACRONYMS

AOR	Area of Responsibility
BPC	Building Partner Capacity
DOD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities
FID	Foreign Internal Defense
GCC	Geographic Combatant Commander
HN	Host Nation
IGO	Intergovernmental Organization
JP	Joint Publication
NGO	Non-Governmental Organization
NSS	National Security Strategy
QDR	Quadrennial Defense Review
TSC	Theater Security Cooperation
U.N.	United Nations
USAF	United States Air Force
USAFRICOM	United States Africa Command
USTRANSCOM	United States Transportation Command
USAID	United States Agency for International Development
USJCS	United States Joint Chiefs of Staff

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CHAPTER 1

INTRODUCTION

Africa is on the move. You are poised to play a bigger role in this world as the shadows of the past are replaced by the light that you offer an increasingly interconnected world.

— President Barack Obama, 26 July 2015

Overview

The United States possesses significant strategic interests in West Africa. Within the interrelated international environment, the crises and resources of Africa directly affect the global economy. In this context, the United States' foreign strategy directly corresponds to the protection of American interests on the African continent including humanitarian concerns and the protection of democratic institutions (Obama 2015a, 20). While a history of post-colonial struggle and natural disaster plagues the region, contemporary governments in West Africa demonstrate a willingness to work with American organizations in order to improve society. The United States, through its military instrument of power, is able to shape West African capabilities by establishing capacity as well as enduring partnerships that provide stability and lasting regional security.

The lead American military organization in Africa is the United States Africa Command (USAFRICOM), a Geographic Combatant Command (GCC) with the entirety of the African continent, excepting Egypt, inside its area of responsibility (AOR) (United States Joint Chiefs of Staff (USJCS) 2011b, xii). USAFRICOM manages American military forces in the AOR through joint, inter-organizational, and multinational efforts to

achieve American strategic effects in the region (Rodriguez 2014, 2). “The United States remains focused on maximizing . . . impact throughout Africa by actively working with key partners to foster stability and prosperity” (Hagel 2014, 19). This strategy requires close cooperation with African host nations, non-governmental organizations (NGOs), European allies, and intergovernmental organizations (IGOs) by cohesively synchronizing efforts on the continent. The challenge facing USAFRICOM is the optimal employment of military power in order to establish lasting security and stability in the region.

Given America’s goals and interests on the continent, USAFRICOM’s primary mission in West Africa is the achievement of lasting strategic gains through military means. “While (USAFRICOM’s) activities can mitigate immediate security threats and crises, reducing threats to the United States and the costs associated with intervention in Africa will ultimately hinge on the long-term development of effective and democratic partner nation security institutions and professional forces that respect civilian authority” (Rodriguez 2014, 2). These long-term and enduring partnerships are instrumental in achieving strategic gains both in times of peace and in times of crisis. The challenge for USAFRICOM is how best to establish these enduring partnerships while actively shaping the African environment in accordance with U.S. strategy despite limited military and monetary resources.

While various military means exist for USAFRICOM to achieve strategic effects, airpower offers significant advantages in demonstrating America’s commitment to the region while simultaneously offering capability to host nation governments. Airpower contributes significantly to shaping operations as a force enabler allowing African

militaries greater movement, maneuver, command and control, intelligence, sustainment, communications, and protection. As the military lead agency in the African AOR, USAFRICOM is able to collaborate with sovereign governments and galvanize Africa's militaries with American airpower capabilities.

During peacetime operations, airlift is the prevailing form of American airpower appropriate to West Africa's requirements. Between 1947 and 1994, the U.S. conducted 79 humanitarian airlift operations in Africa (Haulman 1998, 278). The two forms of airlift are intertheater strategic airlift and intratheater tactical airlift. Intertheater strategic airlift "serves the (Continental United States)-to-theater and theater-to-theater air mobility needs of the GCCs. Air mobility assets assigned to (United States Transportation Command (USTRANSCOM)) execute the majority of intertheater airlift missions" (USJCS 2013b, II-2). While strategic airlift affords significant potential in shaping West African affairs, the limited availability of these resources impairs their potential employment in West Africa. Conversely, intratheater tactical airlift "operations are defined by geographic boundaries. Air mobility forces assigned or attached to the GCC normally conduct these operations" (USJCS 2013b, II-2 – II-3). To simplify these terms, this thesis will utilize the terms strategic airlift instead of intertheater airlift and tactical airlift instead of intratheater airlift.

Whereas strategic airlift requires larger airport facilities and higher expenditure per flying hour, tactical airlift typically is better suited to austere locations and smaller operations (Williams et al. 2015, 80). This is particularly useful in West Africa due to a generally inadequate transportation infrastructure that impedes sustainment and maneuver capabilities (Williams et al. 2015, 80). As USAFRICOM continues to invest military

resources in West Africa, the prudential use of tactical airlift will directly produce long-term strategic gains in the region.

This thesis will analyze the background behind West Africa while deriving essential elements from the contemporary regional operational environment. With this background, an analysis of American West African strategy will demonstrate how USAFRICOM and the military domain relate to America's strategic end state for the region. After outlining the strategy, the background doctrine and the evolution of tactical airlift will provide an operational military capability appropriate to the region. Analyzing two specific tactical airlift case studies will demonstrate how airlift shaping operations enforce American strategy. Finally, a proposal for West African airlift requirements will incorporate historic lessons learned as well as essential elements for future operations.

Primary Research Question

Enduring American interests in West Africa require an understanding of the relationship between the military means associated with accomplishing strategic ends. Understanding this relationship requires answering the primary research question of "During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?" This question relies upon the definition of Phase 0 shaping operations as the joint, inter-organizational, and multinational missions "performed to dissuade or deter potential adversaries and to assure or solidify relationships with friends and allies" (USJCS 2011b, III-42). These operations can either precede military conflicts or deter hostilities altogether depending on strategic ends and operational effectiveness.

The primary research question seeks to frame the relationship between the national-level end state and the tactical-level intratheater airlift means. This framework entails the limitations of military action while identifying potential opportunities between the United States and African partners. Understanding this relationship enables effective utilization of tactical airlift to shape West African affairs.

Secondary Research Questions

To answer the primary research question, “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” the answers to four secondary questions must be understood. These secondary questions provide the framework and background for comprehending American strategy and tailoring shaping operations that capitalize upon tactical airlift military means.

The secondary research questions this thesis will address are:

1. What is America’s strategy for West Africa?
2. What doctrine exists for shaping operations?
3. What is the United States Air Force (USAF)’s tactical airlift doctrine?
4. What trends and requirements manifest from tactical airlift shaping operation case studies?

Key Terms

Key terms in this thesis include tactical airlift, strategic airlift, strategic end state, shaping operations, foreign internal defense (FID), theater security cooperation (TSC), and building partner capacity (BPC). The term tactical airlift refers to global mobility operations conducted through intratheater forces controlled by regional GCCs not limited

to aircraft, Contingency Response Airmen, and associated joint assets and personnel. Conversely, strategic airlift utilizes intertheater forces controlled by USTRANSCOM. The term strategic end state refers to national-level strategic guidance issued by the President of the United States manifest predominantly through the National Security Strategy.

Throughout this thesis, the term shaping operations refers to Phase 0 missions prior to the commencement of military hostilities (USJCS 2011b, xiii). Figure 1 depicts the five phases of military hostilities with a corresponding description of generic actions during each phase.

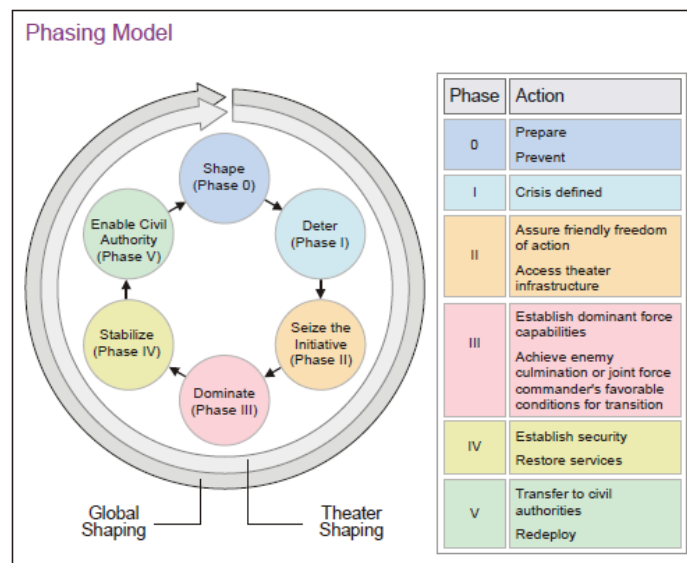


Figure 1. Phasing Model

Source: U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning* (Washington, DC: U.S. Joint Chiefs of Staff, 2011), III-41.

The campaign phasing model begins with Phase 0 and continues through Phase V; the individual phases are Phase 0 Shape, Phase I Deter, Phase II Seize the Initiative, Phase III Dominate, Phase IV Stabilize, and Phase V Enable Civil Authority (USJCS 2011b, III-41). The operational phases are cyclical in nature, as Phase V should gradually transition to Phase 0. During Phase 0, American military and interagency members conduct a wide range of military and humanitarian missions not limited to crisis response, crisis prevention, foreign internal defense, building partner capacity, and establishing sustainment capability for use in later operational phases (USJCS 2011b, III-42).

This thesis utilizes FID as a key term directly related to shaping operations. FID is “the participation by civilian and military agencies of a government in any of the action programs taken by another government or other designated organization, to free and protect its society from subversion, lawlessness, insurgency, terrorism, and other threats to their security” (USJCS 2010, ix). This doctrinal definition identifies the relationship of FID operations between U.S. and host nation (HN) internal defense and development typically occurring during Phase 0 operations (USJCS 2010, ix).

TSC is a similar key term utilized throughout this thesis. TSC is the Department of Defense’s (DOD’s) “interactions with foreign defense establishments to build defense relationships that promote specific U.S. security interests, develop allied and friendly military capabilities for self-defense and multinational operations, and provide U.S. forces with peacetime and contingency access to a host nation” (USJCS 2013a, x). These long-term relationships between allies and friendly HNs require continual presence and commitment by regional GCCs (USJCS 2013a, x).

The final key term is BPC. These events complement FID and TSC operations with short-term and distinct objectives by collaborating DOD assets with allied or friendly HN military forces to establish indigenous capabilities (USJCS 2013a, I-4). BPC events influence HNs through the military instrument of power while establishing enduring partnerships during Phase 0 operations.

Limitations

This thesis contains limitations possibly threatening research validity. Limitations are potential weakness of a study beyond the control of the researcher threatening the validity of research conclusions (Simon 2011, 2). Limitations for this thesis include research availability of contemporary airlift case studies and a six-month timeline to complete this thesis.

This research thesis mitigates identified limitations through control measures employed during the research process. The limited availability of information on contemporary case studies led the researcher to focus research upon historic examples with fully developed scholarly analysis. Relying upon historic examples and integrated analysis of contemporary material mitigates the shortcomings inherent to the time limitation.

Delimitations

This thesis employs delimitations to establish a framework for research. Delimitations are “characteristics that limit the scope and define the boundaries” of a study (Simon 2011, 2). This thesis intentionally excludes strategic mission sets to focus upon tactical airlift means. This delimitation frames the problem between national-level

strategy and tactical-level means appropriate to USAFRICOM's military capabilities. While USTRANSCOM is able to issue strategic airlift assets to West Africa, imposing a tactical airlift delimitation assists in framing the problem and solution appropriate to USAFRICOM action without augmentation from a functional GCC.

An additional thesis delimitation scopes the research of tactical airlift operations exclusively to Phase 0 shaping operations. While tactical airlift missions apply to the full range of military operations, this thesis focuses exclusively upon Phase 0 in order to narrow the material and establish a framework for understanding the relationship between strategic guidance and tactical implementation. Limiting this thesis to Phase 0 shaping operations inherently reduces the amount of variables and the scope of military operations and considerations. This delimitation frames the relationship between national level strategy and tactical airlift means appropriate to West African implementation. The additional delimitation of focusing solely upon tactical airlift mission sets within Phase 0 further frames the relationship between strategic ends and tactical means to answer the primary research question of "During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?"

Assumptions

Numerous assumptions are necessary to provide a framework for the research as it answers the primary research question "During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?" Assumptions related to this subject matter are believed to be true by the researcher and require outlining to optimize the framework of the research.

The first assumption is that the predominance of West African nations currently lack the ability to provide tactical airlift capabilities and will not significantly increase organic airlift assets in the near future. Airlift operations require significant military infrastructure, monetary resources, as well as frequent training and maintenance requirements beyond the current capacity of many West African nations. While the predominance of West African nations do not currently possess tactical airlift means, foreign internal development by the United States in the region potentially bridges this capability gap. Given that tactical airlift is an enabler for land forces and organizations, the lack of West African airlift assets identifies an opportunity rather than a barrier to partnership between American and African militaries.

The second area of assumption is that both crisis response and crisis prevention shaping operations contain similar indicators and trends in order to build a comprehensive understanding of tactical airlift capabilities. While response and prevention embody different mission sets, the indicators for successful accomplishment are common throughout the range of shaping operations. This critical assumption allows lessons learned from crisis response operations to improve future tactical airlift shaping operations.

The third operating assumption is that current U.S. Air Force and U.S. Army shaping capabilities will not significantly change in the near future. This limits the Air Force to existing tactical airlift assets and organizations while scoping joint military mission sets and capabilities to current doctrine and force structures. Limiting the research to current doctrine and existing U.S. policy toward West Africa enables a

realistic framework for understanding shaping operations and recommending future solutions within a resource-limited operating environment.

The fourth and final assumption is that all Phase 0 shaping operations bear similar characteristics and indicators for success and failure regardless of theater or conflict. This assumption enables lessons learned to span beyond solitary conflicts allowing for analysis from a broad array of military operations throughout the modern era. Analyzing numerous shaping operations across numerous theaters allows for a comprehensive solution appropriate to West Africa.

Air Force Future Operating Concept and Army Warfighting Challenges

Understanding the linkages between national-level strategic policy and tactical airlift means directly correspond to issues outlined in the U.S. Air Force's Future Operating Concept and in the U.S. Army's Warfighting Challenges. This topic ties to the Air Force's struggle to preserve the Rapid Global Mobility mission set despite increasingly limited resources and increasingly complex operating environments (U.S. Department of the Air Force 2015, 4). The shaping operations conducted by tactical airlift platforms directly integrate with U.S. Army mission sets and corresponding Army Warfighting Challenges. Specific Warfighting Challenges explored in this research thesis include ensuring interoperability in joint, interagency, and multinational environments, shaping the security environment, and enhancing realistic training (U.S. Department of the Army 2015, 1-2). This research thesis will inform and develop these future operating challenges for the U.S. Air Force and the U.S. Army.

Summary

The interconnected global environment links American interests and security to West Africa. The potential for partnerships between U.S. and African militaries identifies an opportunity for applying tactical airlift means to galvanize relations while increasing security and crisis response capabilities in the region. The next chapter discusses how pertinent literature answers the following secondary research questions:

1. What is America's strategy for West Africa?
2. What doctrine exists for shaping operations?
3. What is the USAF's tactical airlift doctrine?
4. What trends and requirements manifest from tactical airlift shaping operation case studies?

The next chapter, chapter 2, will answer these secondary questions to yield the comprehension of the primary research question, "During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?"

CHAPTER 2

LITERATURE REVIEW

Introduction

Exploring the answer to the primary research question, “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” requires a comprehensive literature review. The literature review establishes the foundation and framework for this thesis by presenting data and information to answer the four secondary research questions. Chapter 4 of this thesis will analyze this information relative to two shaping case studies in order to answer the primary and secondary research questions. With this analysis, chapter 5 will model a tailorable rubric for conducting comprehensive and effective tactical airlift operations appropriate to West Africa.

The Literature Review for this topic is broken into four sections: West African strategy, shaping operations doctrine, airlift doctrine, and tactical airlift case studies. Each section aligns to one of the four secondary research questions. The four secondary research questions are:

1. What is America’s strategy for West Africa?
2. What doctrine exists for shaping operations?
3. What is the USAF’s tactical airlift doctrine?
4. What trends and requirements manifest from tactical airlift shaping operation case studies?

The strategy section derives primarily from United States policy and official strategic documents. The shaping operations section focuses predominantly on joint

shaping doctrine. The airlift doctrine section spans the duration of airpower's existence with an outline of the essential elements for tactical airlift's employment and effects. The tactical airlift case studies section provides historic context, operational information, and strategic results of America's airlift missions. Exploring the literature inherent to these four sections enables a deeper understanding of American regional strategy, the problems facing West Africa, and the prudential application of airlift means appropriate to the desired strategic end state for the region.

West African Strategy

The secondary research question answered in this section is "What is America's strategy for West Africa?" The source documents for resolving this secondary research question primarily include guidance from the President of the United States as well as official statements and testimony from USAFRICOM leadership. Essential documents include the President's National Security Strategy (NSS), the Quadrennial Defense Review (QDR), Presidential speeches, Congressional hearings, and the 2014 USAFRICOM Posture Statement. These documents and speeches unveil the American strategic end state for Africa as well as guidelines for implementation.

The American strategy for West Africa involves a comprehensive commitment to lasting partnerships and regional investment for stability. President Obama's 2015 NSS entails that "the United States will concentrate attention and resources to help countries consolidate their gains and move toward more democratic and representative systems of governance" (Obama 2015a, 20). The President outlines his strategic end state of democratic governance for West Africa and the African continent as a whole. The NSS also presents the strategic end of "seeking new opportunities for partnership and

investment in Africa” (Obama 2015a, 1). With this direction, the President delineates his strategic end of building enduring partnerships in West Africa through the prudential investment of resources and American aid.

An additional strategic end identified in the NSS and reiterated in the QDR is risk mitigation to American security by handling pandemic crises abroad. In 2014, amidst the regional Ebola epidemic in West Africa, “President Barack Obama viewed Ebola’s international spread as a threat to U.S. national interests” (Williams et al. 2015, 76). The NSS states that the Ebola outbreak within West Africa “in 2014 serves as a stark reminder of the threat posed by infectious disease and the imperative of global collective action to meet it. American leadership has proven essential to bringing to bear the international community to contain recent crises while building public health capacity to prevent future ones” (Obama 2015a, 27). This guidance yields strategic end states of timely crisis response as well as effective crisis prevention to mitigate threats to American national security interests.

The end state of crisis prevention directly links to the previously articulated investment in partnerships and capabilities in West Africa. This strategy applies to military ends as well; the QDR directs that “there is also significant opportunity to develop stronger governance institutions and to help build professional, capable military forces that can partner with the United States to address the full spectrum of regional security challenges. Multilateral peace operations under the aegis of the United Nations (U.N.), African Union, and sub-regional organizations are playing an increasingly prominent role in maintaining and restoring international security” (Hagel 2014, 5). The QDR complements the President’s NSS in clearly delineating the strategic end state of

international security through multilateral partnerships and peace operations. The United States strategy in West Africa is to actively partner with African governments who are committing to U.S. ends of security and peace (Rodriguez 2015, 4).

The lead military organization for the African continent is USAFRICOM. Complementing national strategic policy, USAFRICOM defines U.S. vital national security interests in Africa as “protecting the security of the global economic system, preventing catastrophic attacks on the homeland, developing secure and reliable partners, protecting American citizens abroad, and protecting and advancing universal values” (Ham 2013, 5). These refinements to the strategic ends located within the NSS and QDR scope the military’s application of military means and resources on the African continent.

Answering the secondary research question of “What is America’s strategy for West Africa,” the NSS, QDR, and USAFRICOM policies unveil the strategic ends of U.S. national security, regional stability, enduring partnerships, prudential resource investment, protecting Americans abroad, and protecting universal values. These strategic ends embody a lasting and overt American commitment to West Africa. This end state enables the formulation of commensurate means including shaping operations with military assets.

Shaping Operations Doctrine

The secondary research question answered in this section is “What doctrine exists for shaping operations?” The literature defining shaping operations exists primarily within joint doctrine and publications. Primary sources for literature review include Joint Publication (JP) 3-0, JP 5-0, and Field Manual 3-07. This section will analyze Phase 0 shaping requirements and military expectations for operational employment.

The primary purpose of Phase 0 shaping operations is to meet strategic ends while preventing or preparing for Phase 1 deter operations. By definition, these operations “shape phase missions, task, and actions are those that are designed to dissuade or deter adversaries and assure friends, as well as set conditions for the contingency plans” (USJCS 2011a, V-8). Operations during this phase engage joint, multinational, and interagency partners in order to leverage capabilities performing a wide range of military actions. “Shape activities are executed continuously with the intent to enhance international legitimacy and gain multinational cooperation by shaping perceptions and influencing adversaries’ and allies’ behavior” (USJCS 2011a, V-8). Shaping operations can include developing friendly military capabilities for self-defense and multinational operations, exchanging intelligence, sharing military and geographic access, and preventing crises (USJCS 2011a, V-8). This wide range of mission sets directly targets accomplishing strategic ends with a variable array of military means and ways.

A type of shaping operation available to joint forces is foreign internal defense (FID). “FID is the policy and program under which the United States assists foreign allies in their defense against internal threats, which usually develop in the form of organized lawlessness, subversive terrorism, or insurgencies” (Owen and Mueller 2007, 51). FID mission subsets include short-term Building Partner Capacity (BPC) events and longer-term Theater Security Cooperation (TSC) events dedicated to shaping allied capabilities. Other “FID programs range from assistance with economic and governmental infrastructure development to active support in combat operations and can help contribute to containing or defeating insurgencies against which U.S. forces might otherwise have to fight directly” (Owen and Mueller 2007, xiv). The FID approach to shaping operations

directly galvanizes friendly capabilities as an investment to achieve U.S. strategic ends abroad.

Answering the secondary research question of “What doctrine exists for shaping operations,” relies upon joint doctrine. Phase 0 shaping operations encapsulate the wide range of missions able to accomplish American strategy prior to Phase 1 deter operations. The various forms of shaping missions include FID, BPC, and TSC events serving to prevent conflict escalation and prepare for future conflict.

Airlift Doctrine

The secondary research question answered in this section is “What is the USAF’s tactical airlift doctrine?” The airlift doctrine section of the literature review will analyze the origins of airlift and airpower’s integration with joint, coalition, host nation, and interagency entities to achieve desired effects. This section’s source material includes *Airlift Doctrine* by Charles Miller, *Tactical Airlift* by Ray Bowers, and joint airpower references. This section provides the evolution of tactical airlift and the essential elements for doctrinal success in airlift operations.

In order to understand the tactical airlift subset of air mobility operations first requires clarity in mobility and airlift definitions. To achieve global power projection, the U.S. relies upon the mobility triad. The mobility triad consists of airlift, sealift, and prepositioned stock enabling force projection and rapid mobility (Miller 1998, 366). According to JP 3-17, “air mobility is the rapid movement of personnel, materiel, and forces to and from, or within, a theater by air” (USJCS 2013b, vii). Within this movement system, various employment options exist including airlift, airdrop, and air refueling with strategic and tactical means. Specific “airlift objectives are to deploy, employ, and sustain

military forces through the medium of aerospace. The airlift mission is performed under various conditions, ranging from peace to war. As a combat mission, airlift projects power through airdrop, extraction, and airlanding of ground forces and supplies into combat” (Eichhorst 1991, 5). This wide-reaching set of objectives provides options to GCCs, including USAFRICOM, when employing airlift missions throughout the continuum of military operations.

Airlift operations enable global reach and force projection of joint and multinational military power. “Airlift movements permit rapid concentrations of force and reduce the vulnerability of maneuvering ground units to logistical isolation and piecemeal destruction” (Owen and Mueller 2007, viii). Airlift is a force enabler affecting operational tempo and providing military forces a variety of options throughout the continuum of conflict. Furthermore, “airlift is fast and flexible. It is limited by the amount of goods it can carry and it is dependent on airfields. Its greatest contributions come early in conflicts requiring rapid deployments, any time during a conflict when combat conditions call for emergency or high-priority movement or resupply” (Miller 1998, 370). Ultimately, “the ability to airland or airdrop forces and equipment across long distances in a matter of hours gives civilian leaders and military planners a flexibility not found elsewhere” (Miller 1998, 370). Airlift assets and personnel are force enablers throughout the full range of military operations enabling flexible actions, rapid execution, and ensured sustainment options.

Relating to Phase 0 shaping operations, airlift missions directly enable humanitarian crisis prevention and crisis response operations. Humanitarian operations “usually build good will and a cooperative attitude in the country that the United States is

assisting. In some cases, the recipient is a country that has only limited interaction with the United States. In those cases, disaster relief, air evacuation of injured persons, or rescue missions help to foster closer, and usually friendlier, relations between the United States and the recipient” (Hutcheson 1999, 39). Airlift operations are a military means that enable joint and multilateral efforts in preventing and responding to humanitarian crises.

Answering the secondary research question of “What is the USAF’s tactical airlift doctrine,” relies upon understanding the air mobility enterprise and the wide range of airlift enabling functions. Tactical airlift provides GCCs and adaptable and responsive force projection to support military operations throughout the range of military operations. Airlift is ideally suited to shaping and humanitarian operations given rapid and flexible response capabilities therein supporting joint and multilateral efforts in crisis prevention and crisis response.

Tactical Airlift Case Studies

The secondary research question answered in this section is “What trends and requirements manifest from tactical airlift shaping operation case studies?” Numerous tactical airlift case studies provide examples of shaping operations with varying degrees of effectiveness. Case studies appropriate to the literature review include Operation Vittles in East Berlin, Operation Provide Relief in Somalia, Operation United Assistance in Liberia, Operation Unified Response in Haiti, and numerous additional smaller-scale missions throughout the world between 1947 and 2015. This section will discern trends and requirements for tactical airlift operations while narrowing the focus of tactical airlift operations in order to derive two main case studies for analysis.

The first requirement for an effective tactical airlift shaping operation is the clear linkage between strategic ends and tactical means through a defined operational art. This requirement manifests through definable goals framed with commensurate means to tailor the shaping operation appropriately. An example of incomplete linkages between ends and means is Operation Provide Relief in Somalia (Hirsch and Oakley 1995, 41). This operation failed to identify military goals and an operational end state. Figure 2 presents the doctrinal relationship between strategy and operational art in order to ensure unified action.

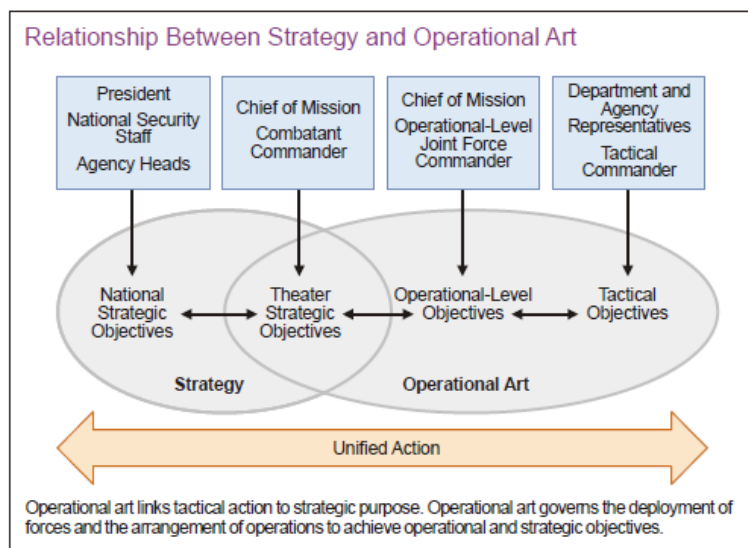


Figure 2. Relationship between Strategy and Operational Art

Source: U.S. Joint Chiefs of Staff, Joint Publication 3-0, *Joint Operations* (Washington, DC: U.S. Joint Chiefs of Staff, 2011), I-13.

To achieve unified action, an operational design delineates key leaders and associated objectives at national, theater, operational and tactical levels (USJCS 2011a, I-

13). The failure of leaders during Operation Provide Relief to deliver viable campaign objectives led to a misallocation of resources and effort. The lack of operational art and strategic guidance unsuccessfully shaped the Somali operational environment and resulted in mission failure (Hirsch and Oakley 1995, 41).

The second requirement for an effective tactical airlift shaping operation is the scalability of the operation with appropriate assets. Operation Vittles, otherwise known as the Berlin Airlift, was a shaping operation where the GCC scaled his tactical airlift operation according to variable mission requirements. This operation identified shifting requirements and forged a scalable airlift solution over an eleven-month timespan (Hutcheson 1999, 14). Scalability is necessary for tactical airlift operations in order to meet mission requirements while balancing limited resources to ensure operational success.

The third requirement for an effective tactical airlift shaping operation is the optimization of unity of effort. Airlift operations must synchronize with joint and multilateral ground forces to provide enabling effects. Operation Unified Response in Haiti demonstrated the critical integration of ground and air assets to deliver a humanitarian response to the natural disaster that devastated the nation (Keen 2010, 85). Tactical airlift operations will not succeed without adequate integration between joint and coalition forces. This requirement for air and ground force cooperation demonstrates the important role tactical airlift serves as an intratheater supporting force.

The fourth requirement for an effective shaping operation is the principle of unity of command. Competing interests and resource scarcity requires airlift assets ascribe to a definitive command structure regardless of joint, multilateral, or interagency leadership

appointment. An example of a complex command structure existed during Operation United Assistance in Liberia when the DOD supported the United States Agency for International Development (USAID). “The president directed the DOD to provide support to the USAID Disaster Assistance Response Team that had been activated on 5 August 2014. He specifically tasked DOD to provide command and control, logistics, and engineering capabilities and expertise” (Williams et al. 2015, 76). The potential complexity of shaping operations requires clear definition of command and supporting relationships to optimize the principle of unity of command.

Answering the secondary research question of “What trends and requirements manifest from tactical airlift shaping operation case studies” reveals the four requirements of clear identification of operational goals, mission scalability, unity of effort, and unity of command. These requirements serve as screening criteria for tactical airlift shaping operations. Without a clear identification of goals with corresponding linkages to strategy through operational art, the tactical objectives cannot achieve strategic ends. In addition to goal identification, historic tactical airlift shaping operations demonstrate the requirement for adopting the principles of scalability, unity of effort, and unity of command. The four elements of goal identification, mission scalability, unity of effort, and unity of command serve as screening criteria for effective tactical airlift shaping operations.

Summary

The literature review in this chapter provides insight into the four primary topics of this thesis while presenting data appropriate to the secondary research questions. Chapter 3 will build upon this literature review and present this study’s research

methodology in order to answer the primary research question of “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?”

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The researcher will employ several research methods to answer the primary research question “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” These methods include a literature review, development of screening and evaluation criteria, as well as a qualitative comparison of tactical airlift shaping operation case studies. The analysis of this qualitative comparison, as well as the application of screening and evaluation criteria to West Africa, will answer the primary research question.

Understanding the appropriate requirements for shaping operations via tactical airlift requires analysis of military case studies. Numerous tactical airlift operations occurred in Africa since the inception of the American Air Force. These missions range from foreign humanitarian assistance operations to military sustainment operations. Analyzing trends within these shaping operations and linking operational elements to strategic outcomes generates a heuristic for effective tactical airlift requirements.

Thesis Approach

This thesis shall utilize the literature review to analyze the case studies of Operation Provide Relief in Somalia and Operation Vittles in Berlin. Chapter 4 will present this analysis to conduct a qualitative comparison of the airlift operations to the resultant strategic outcomes. Understanding the linkages between operational elements and strategic outcomes generates a rubric for the employment of tactical airlift operations

in West Africa presented in chapter 5. This rubric will link strategic ends to military means while capturing the lessons learned from the past century of shaping operations.

Research Methodology

This thesis utilizes a systematic approach for research integration:

Step 1: The first step is establishing a research design in order to answer the secondary research questions. Chapter 2 consists of this research design and literature review.

Step 2: The second step in the research methodology is utilizing the literature review to identify screening criteria appropriate to answering the primary research question of “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” The screening criteria enable a refined understanding of previous military missions while identifying indicators necessary for operational effectiveness.

Step 3: The third step in the research design is developing evaluation criteria to assist in framing operational case studies. This step enables the understanding of various characteristics inherent to tactical airlift shaping operations. The evaluation criteria will provide the framework for the case study analysis.

Step 4: The fourth step is aggregating characteristics of two historic case studies within the evaluation criteria. Chapter 4 consists of this aggregation and explains similarities as well as differences between case studies to capture effective indicators while mitigating operational weaknesses.

Step 5: The last step in the research design is to draw conclusions from the qualitative comparison and answer the primary research question of “During Phase 0

shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” Chapter 5 answers this question and proposes a recommendation for West African shaping operations. This chapter also identifies alternative considerations and future research recommendations.

Threats to Validity

The research methodology requires an explanation of potential threats to validity inherent to the research design as well as mitigation measures employed while writing this research thesis. “A study is valid if its measures actually measure what they claim to and if there are no logical errors in drawing conclusions from the data” (Garson 2002, 192). Identifying threats to validity enables an understanding of the material while ensuring both logical research design and sound research conclusions.

The thesis author is a United States Air Force officer and tactical airlift pilot therein inducing a personal bias threat to validity. A thesis committee mitigates this threat to validity by applying review methods throughout the research and thesis drafting process. These external reviewers and processes limit personal bias and optimize research conclusions.

An additional threat to validity in this research thesis is the selection bias of tactical airlift case studies. The limited research availability of contemporary airlift case studies affects this threat to validity (Garson 2002, 192). To mitigate selection bias, the thesis committee screened case studies focusing on two tactical airlift shaping operations pertinent to answering the primary research question of “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?”

Screening Criteria

The rubric and recommendations in chapter 5 will integrate the four screening criteria identified in chapter 2. Screening criteria ensure solutions are able to solve the problem by defining the limits of an acceptable solution (United States Department of the Army 2011, 4-4). The four screening criteria from chapter 2 are the clear identification of operational goals, mission scalability, unity of effort, and unity of command. Without meeting these four screening criteria, a tactical airlift shaping operation will not achieve the desired end state. Screening criteria provide a clarification of mission requirements and enable a point of departure for understanding evaluation criteria qualifiers of historic case studies while establishing functional indicators for future operations.

Evaluation Criteria

The seven evaluation criteria for this thesis are doctrine, organization, training, materiel, leadership, personnel, and facilities (DOTMLPF). Evaluation criteria provide distinct definitions, methods of measurement, and qualifiers to differentiate possible solutions and alternatives (United States Department of the Army 2011, 4-4). The evaluation criteria for this thesis derive from the DOD's Joint Capabilities Integration Development System as a means for analyzing existing capabilities and targeting gaps and efforts (United States Department of the Army 2013, 68).

The DOTMLPF evaluation criteria will frame the analysis of Operations Vittles and Provide Relief in chapter 4 while also outlining the proposed rubric for future operations in West Africa in chapter 5. The doctrine evaluation criterion will assess alignment of the mission within existing joint doctrine. The organization evaluation

criterion will assess the mission's joint, multilateral, and interagency leadership structure. The training evaluation criterion will assess alignment of airlift training to assigned mission sets. The materiel evaluation criterion will assess existing materiel capabilities utilized to conduct given shaping operations. The leadership evaluation criterion will analyze leadership channels and mechanisms to articulate intent and achieve strategic ends in the mission. The personnel criterion will analyze human resources including air and ground military forces, host nation populace, as well as civilian interagency and non-governmental participations during shaping operations. Finally, the facilities criterion will assess available and requisite infrastructure to conduct tactical airlift shaping operations.

Chapter 4 will analyze Operation Vittles and Operation Provide Relief within separate DOTMLPF domains. Table 1 depicts the DOTMLPF evaluation criteria cross-correlated with tactical airlift shaping operation case studies. Chapter 4 will populate this table with vital aspects of Operation Vittles and Operation Provide Relief linking strategic success to tactical means. The qualitative comparison in chapter 4 will enable the aggregation of essential DOTMLPF components in order to outline requisite characteristics for future shaping operations. These essential components will form the basis for the recommendations in chapter 5 on how best to implement tactical airlift shaping operations in West Africa.

Table 1. Case Study Evaluation Criteria			
	Operation Vittles	Operation Provide Relief	Essential Components
Doctrine			
Organization			
Training			
Materiel			
Leadership			
Personnel			
Facilities			

Source: Developed by author.

Summary

The qualitative comparison of Operations Vittles and Provide Relief through the DOTMLPF evaluation criteria identifies the requisite components of tactical airlift shaping operations. Understanding the successes and failures of these shaping operations enables the creation of a rubric for outlining essential requirements inherent to historic tactical airlift shaping missions. By capturing historic lessons learned through qualitative case study comparison, the analysis will provide the answer to the primary research question of “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” The next chapter of this thesis, chapter 4, analyzes the data collected within this study in order to resolve this primary research question.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

Introduction

This chapter presents the data collected in the study to answer the primary research question, “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” The literature review from chapter 2 answered the secondary research questions while the research methodology from chapter 3 established the framework for analyzing the primary research question through qualitative case study comparison. The data presentation and analysis of chapter 4 utilizes the operational approach outlined in chapter 3.

Step 1: Research Design and Literature Review

The literature review offers answers to the secondary research questions providing context and understanding of the thesis’ primary research question. The initial secondary research question is “What is America’s strategy for West Africa?” As directed by the President in the NSS and reflected in the QDR, U.S. strategy in West Africa is stability-oriented with a peaceful and prosperous West African region. The U.S. desires a secure West Africa to protect American interests domestically and abroad. In order to achieve this end state, the U.S. seeks to establish enduring partnerships through the prudent investment of resources in West Africa.

Understanding American strategy in West Africa enables a military focus on shaping operations with joint, inter-organizational, and multinational forces. This leads to the next secondary research question of “What doctrine exists for shaping operations?”

The answer to this secondary research question exists primarily within joint doctrine through the identification of the requirements and the scope of shaping operations. Shaping operations require clearly defined objectives derived from strategic intent. Functional shaping operations then apply an operational design matching tactical means to a desired end state. Shaping operations require this doctrinal approach to matching strategic ends to tactical means for mission success. Mission variants include FID, TSC, and BPC operations dedicated to developing friendly military capabilities. These doctrinal shaping operations enable military solutions for establishing enduring partnerships.

The subsequent secondary research question further refines the scope of shaping operations to the airpower domain. This question is “What is the USAF’s tactical airlift doctrine?” Primarily relying upon joint doctrine, tactical airlift is the intratheater movement of personnel and supplies controlled by the GCC through airland and airdrop operations supporting theater objectives (Eichhorst 1991, 5). Tactical airlift allows fast and flexible mission sets throughout the full range of military operations. Specific to shaping operations, tactical airlift enables humanitarian crisis prevention and crisis relief. The doctrinal capabilities of tactical airlift afford significant flexibility and capability to the GCC.

Understanding both shaping and tactical airlift doctrine leads to the final secondary research question of “What trends and requirements manifest from tactical shaping operation case studies?” The literature review unveils four requirements for tactical airlift shaping operations. These requirements are clear identification of operational goals, mission scalability, unity of effort, and unity of command. Without

adherence to these four requirements, a tactical airlift shaping operation risks mission degradation and failure.

Step 2: Identify Screening Criteria

The second step in the systematic research design is the identification of screening criteria for tactical airlift shaping operations. Selected screening criteria derive from the shaping operations requirements identified in chapter 2. The screening criteria are clear identification of operational goals, mission scalability, unity of effort, and unity of command. These criteria enable a refined understanding of previous military missions while identifying indicators necessary for operational effectiveness.

Step 3: Evaluation Criteria

The development of evaluation criteria for analyzing tactical airlift shaping operations enables the qualitative comparison of key characteristics in historic case studies. The criteria of doctrine, organization, training, materiel, leadership, personnel, and facilities (DOTMLPF) present a comprehensive understanding of selected tactical airlift case studies. This holistic approach to framing the two case studies according to specific criteria identifies essential characteristics appropriate to future tactical airlift shaping operations.

Step 4: Case Study Analysis

This step presents information on Operations Vittles and Provide Relief while aggregating characteristics of the two case studies within the DOTMLPF evaluation criteria. Each case study explanation provides a brief historic background as well as the DOTMLPF data presentation and analysis. Operations Vittles and Provide Relief provide

historic examples of tactical airlift shaping operations pertinent to future missions in West Africa.

Operation Vittles Background

In June 1948, military forces from the Soviet Union surrounded the city of West Berlin therein severing land communication and supply into and out of the city (Davison 1957, 1). British and American air forces were called upon to resupply the city and its 2.5 million residents (Davison 1957, 1). In July 1948, coalition forces commenced Operation Vittles, also known as the Berlin Airlift, with the mission of resupplying West Berlin and preventing the escalation of hostilities between the Soviet Union and Western forces (Haulman 1998, 7).

This tactical airlift shaping operation lasted for 15 months as Western forces delivered 2,323,067 tons of cargo from 276,926 flights flown into West Berlin (Hutcheson 1999, 14). During the course of the operation, coalition forces “averaged almost one round-trip per minute, every minute, 24 hours per day, despite weather problems and at least 700 cases of aircraft harassment: flares, balloons, bright lights, buzzing by Soviet aircraft, and ground fire (55 aircraft were hit)” (Eichhorst 1991, 14-15). Figure 3 displays the geographic isolation of Berlin and the air avenues of approach employed by British and American forces in conducting the airlift operation.



Figure 3. Operation Vittles Map

Source: Air Force Historical Studies Office, “The Berlin Airlift: U.S. Air Force Fact Sheet,” accessed 15 December 2015, http://www.afhso.af.mil/topics/factsheets/factsheet_print.asp?fsID=17711&page=1.

Operation Vittles DOTMLPF Analysis

Operation Vittles demonstrated the strategic importance of tactical airlift in preventing the Soviet blockade of West Berlin from escalating into conventional conflict. From the doctrinal perspective, Operation Vittles achieved its objectives in resupplying West Berlin through combined efforts. The operation “clearly demonstrated the value of airlift as an instrument of national policy, diplomacy, and humanitarian assistance” (Hutcheson 1999, 14). The operation linked strategic ends to tactical means allocating military ways to accomplish the straightforward mission of resupplying the city without attacking Soviet forces. “In terms of tonnage and aircraft, the Berlin Airlift was the largest in history. It demonstrated the utility of air power as a diplomatic instrument by

sustaining two million people in West Berlin isolated by a Soviet blockade. The operation allowed the United States to fulfill a foreign policy objective without war” (Haulman 1998, 7). In addition to resupply efforts, coalition forces established capacity within West Berlin by developing key infrastructure at airfields and distribution centers (Hutcheson 1999, 13). Operation Vittles achieved doctrinal compliance by establishing an operational approach linking strategic ends to tactical means while establishing an infrastructure and enduring commitment to the people of West Berlin.

The organization of Operation Vittles was highly complex as it incorporated numerous joint, coalition, and interagency assets. The operation “involved units from the U.S. Air Force, the British Royal Air Force, the Royal Australian Air Force, the Royal New Zealand Air Force, the South African Air Force, and the U.S. Navy” (Eichhorst 1991, 16). The operation also incorporated civilian agencies including German organizations assisting with distribution and storage as well as numerous airfield operations (Hutcheson 1999, 13). From the onset of the mission, coalition forces decided, “It was impossible to place all (entities) under a single command. Coordination was ensured in part through a complicated network of air-ground, inter-Allied, and Allied-German committees, but even more by the fact that all those concerned understood the mission to be accomplished and appreciated its importance and urgency” (Davison 1957, 8). While the operation initially failed to employ a single force structure, the coalition mitigated the weaknesses of a multifaceted organization by preserving unity of effort focusing resources on the gargantuan airlift objectives.

Coalition forces did not train for a mission of the size and scope of Operation Vittles. While aircrews, ground maintainers, load teams, and airport personnel were

familiar with airlift operations, the mission complexity of Operation Vittles required coalition forces to learn during mission execution to achieve objectives. Coalition forces adjusted operations throughout the 15-month mission including improved loading techniques, establishing airspace control measures into Berlin, and adjusting self-defense tactics. The training adaptation employed by military and civilian forces unveils flexibility and scalability as the operation progressed to overcome shortfalls and ensure mission success.

Within the materiel domain, Operation Vittles was not adequately equipped for optimized performance at the initiation of the mission. Coalition air forces scrambled available cargo aircraft in national inventories available to meet mission requirements. These aircraft were carryovers from World War II and the Korean War with antiquated technology poorly suited to tactical airlift operations (Eichhorst 1991, 15). Few maintenance repair inventories existed prior to the mission as long distances and transportation availability exacerbated supply chain logistical issues. Materiel shortages and outdated technologies degraded the mission effectiveness of Operation Vittles. Despite these initial challenges, throughout the 15-month airlift, forces established robust supply chains and improved aircraft materiel capabilities to better execute resupply operations.

Given the materiel challenges in the European theater, the leadership of Operation Vittles effectively integrated authority and responsibility to execute the mission and ensure forces met the objective requirements. Three months after the operation's commencement, coalition forces formally consolidated under one military command. "On October 20, 1948, the British and American units engaged in the airlift were brought

under the direction of a Combined Airlift Task Force, with Major General William H. Tunner as commander” (Davison 1957, 9). General Tunner’s appointment to lead the operation ensured unity of command for the mission and enabled a definitive chain of command for subordinate forces. General Tunner and his task force headquarters consolidated requirements and plans therein optimizing force operations with coordinated air tasking orders. By achieving unity of command and establishing a force structure capable of issuing optimized mission orders, Operation Vittles effectively capitalized upon the leadership domain.

Operation Vittles successfully leveraged the personnel domain to achieve mission objectives. The personnel of the U.S. Air Force as well as coalition air forces committed themselves wholeheartedly to the humanitarian cause. “The Berlin airlift was a defining moment in Air Force history – one in which airmen and airlift changed the course of the world without firing a shot” (Hutcheson 1999, 11). The understanding by Operation Vittles personnel of the mission’s importance in sustaining West Berlin and shaping the operational environment in Europe definitively promulgated morale and led to objective accomplishment.

The facilities domain, the final DOTMLPF field, was not ideal during Operation Vittles. Facility shortfalls manifested at coalition staging airports as well as within Berlin. “The airlift’s rapid expansion strained air-base facilities for housing and feeding personnel almost to the breaking point” (Davison 1957, 13). Given the short build-up to the airlift’s commencement, the staging airports were not equipped with facilities and infrastructure needed for the eventual size and duration of the mission. Significant challenges presented in Berlin where coalition forces could not import large construction

vehicles due to the Soviet blockade. Instead, coalition forces utilized existing infrastructure and overcame challenges associated with facility shortfalls through innovation and flexibility by aircrews and ground personnel.

The DOTMLPF analysis of Operation Vittles reveals the challenges inherent to tactical airlift shaping operations. From the doctrinal domain, Operation Vittles improved upon existing airlift concepts to achieve strategic effects through humanitarian sustainment. Organizationally, Operation Vittles employed a coalition structure to synchronize joint, inter-organizational, and multinational efforts with common objectives. The training domain revealed the lack of preparation by coalition forces for an airlift of the size and scope of the Berlin resupply. Despite this insufficient preparation, coalition forces demonstrated learning during mission execution to overcome training shortfalls and optimize operations.

Similar to insufficient training issues, the materiel domain analysis revealed significant aircraft and supply problems at the commencement of Operation Vittles. The leadership domain of the mission capitalized upon the unity of effort inherent to the mission by identifying a single commander and force structure; this adherence to unity of command allowed synchronized and optimized airlift operations. Unity of command directly shaped the personnel domain of the airlift with Airmen and civilians cohesively integrating to conduct the airlift and resupply Berlin. These personnel overcame the limited infrastructure inherent to the facilities domain through innovation and cooperation. The DOTMLPF analysis reveals Operation Vittles' strengths and weaknesses according to the evaluation criteria. Through delineated mission objectives and empowered leaders at all echelons, the operation galvanized coalition efforts and

effectively sustained Berlin. Operation Vittles effectively demonstrated the importance and potential of tactical airlift shaping operations in achieving strategic effects with military means. Table 2 depicts the DOTMLPF domains inherent to Operation Vittles.

Table 2. Operation Vittles Evaluation Criteria Analysis	
Doctrine	Logical design and clear end state optimized operational design.
Organization	Command structure enabled unity of command.
Training	Effective; training enabled flexibility and scalability.
Materiel	Lacking; required increased asset allocation during mission.
Leadership	Single leader optimized unity of command.
Personnel	Military and civilian personnel with common goal achieved unity of effort.
Facilities	Lacking; required an increase of assets during mission.

Source: Developed by author.

Operation Provide Relief Background

In 1991, a global crisis struck the nation of Somalia as separatist factions launched the nation into a civil war (Hutcheson 1999, 27). Thousands of displaced personnel scattered throughout the region as intertribal fighting established a crisis far beyond the control of the Somali government. “The collapse of the state, especially in southern Somalia, and the subsequent looting, factional fighting, and consequent displacement of civilians and disruption of economic activity unleashed a famine that put some 330,000 at imminent risk of death” (Lyons and Samatar 1995, 29). Tribal factions

fueled the crisis as warlords consolidated power. The crisis continued to escalate with no end of the civil war in sight.

By 1992, the situation became desperate as “thousands of civilians were dying. The Secretary-General of the U.N., Boutros Boutros-Ghali, appealed to President Bush to help the people of Somalia. On 14 August 1992, President Bush authorized U.S. Central Command to conduct a relief operation named Provide Relief. Air Mobility Command provided the majority of the initial forces and equipment” (Hutcheson 1999, 27). With the President’s order for a humanitarian airlift, U.N. and U.S. forces went into action attempting to assist the displaced personnel and abate the crisis. Figure 4 depicts the area of operations for Operation Provide Relief with the predominance of airlift missions occurring in the capital city of Mogadishu arriving from staging bases in neighboring Kenya.



Figure 4. Map of Somalia

Source: Central Intelligence Agency, “The World Factbook: Somalia,” accessed 14 December 2015, <https://www.cia.gov/library/publications/the-world-factbook/geos/so.html>.

As a joint U.N. and U.S. coalition formed per direction from Secretary-General Boutros-Ghali and President Bush, violence continued to escalate in Somalia. “The Somali economy reached a crisis at the same time that politics had descended into a violent struggle for power (Lyons and Samatar 1995, 7). Despite this escalation in the crisis, U.S. forces focused exclusively on the humanitarian airlift. Operation Provide Relief took place from August 14, 1992 through February 28, 1993 airlifting 23,321 metric tons of relief cargo, including food, water and medical supplies (Haulman 1998, 331).

Despite the massive scale of the humanitarian effort, the operation failed to resolve the crisis in Somalia. While supplies reached Somalia, insufficient ground

security prevented widespread distribution of provisions. U.N. reports estimated the theft of 80 percent of all food and medical supplies prior to reaching refugee camps and intended NGO or U.N. beneficiaries (Sahnoun 1994, 53). “Even after the U.N. arranged for the United States to airlift a Pakistani peacekeeping force into Somalia, violence and chaos continued” (Hutcheson 1999, 28). Humanitarian supplies directly fed rival gangs and warlords instead of the intended displaced personnel and refugees. Because of this failure, the U.N. and U.S. terminated Operation Provide Relief and initiated a revised strategy. “On 26 November 1992, President Bush ordered the commitment of up to 40,000 U.S. troops to establish a secure environment in Somalia. (Air Mobility Command) began the deployment for this new operation, named Restore Hope, on 9 December” (Hutcheson 1999, 28). Operation Provide Relief’s failure to mitigate the humanitarian crisis exacerbated Somalia’s civil war and resulted in the eventual escalation of conflict by coalition forces.

Operation Provide Relief DOTMLPF Analysis

From the doctrinal domain, Operation Provide Relief did not effectively tailor airlift means to a strategic end state. The lack of clear of definition for the operation compounded by limited ground security and coalition presence within Somalia directly impaired the doctrinal requirements for a successful shaping operation. Operation Provide Relief differed from previous airlift shaping operations due to its historic context; this mission was one of the first cases of “international action in response to state collapse in the post-cold war era (representing) experiments in new forms of multilateral peace operations” (Lyons and Samatar 1995, 6). In order for multilateral humanitarian-oriented peace operations to succeed, a successful strategy required political

reconciliation and reconstitution of legitimate peaceful institutions (Lyons and Samatar 1995, 67). The operational design and guiding doctrine for Provide Relief did not prescribe goals for humanitarian performance nor was progress toward the overall humanitarian goals monitored (Kassing 1994, 48). Operation Provide Relief did not meet doctrinal requirements for strategic functionality due to the absence of an operational design with a guiding end state.

Within the organizational domain, Operation Provide Relief employed a U.S.-led Joint Task Force with international, joint, and interagency components authorized by U.N. Resolution 767 (Hirsch and Oakley 1995, 24). The coalition force headquartered out of Mombasa, Kenya with the U.S. Air Force, Navy, Army, and Marine Corps assisting the operation of 41 C-130s and 5 C-141s that constituted the bulk of the operation's resources (Haulman 1998, 331). Pakistani security forces deployed forward into Mogadishu assisting with airfield security as well as distribution protection while NGO and IGO agencies were responsible for supply distribution at aid stations and refugee camps (Hirsch and Oakley 1995, 27). While the Joint Task Force achieved unity of effort through organizational structure, the coalition suffered numerous setbacks stemming from the limited operational design and strategic guidance. When the 500 Pakistani soldiers arrived in Mogadishu in September 1992, they were unable to depart the international airport due to prohibitive rules of engagement therein leaving all distribution areas without protection (Hirsch and Oakley 1995, 27). The coalition force did not identify food delivery and security operations as essential tasks instead focusing efforts on operating aircraft and moving supplies into Mogadishu (Kassing 1994, 48).

This ineffective approach to the organizational domain impaired Operation Provide Relief's functionality.

Operation Provide Relief effectively leveraged the training domain of DOTMLPF. Aircrews and ground personnel effectively operated aircraft, rigging equipment, and intratheater assets to deliver 28 million meals mere days after President Bush ordered the operation (Haulman 1998, 333). International and interagency partners arrived trained and ready to deliver humanitarian aid in accordance with the U.N. Resolution; despite this training, the operation's myopic design prevented coalition assets from utilizing skillsets ultimately resulting in escalating the crisis instead of providing relief.

Similar to the training aspect of Operation Provide Relief, coalition forces enjoyed equipment advantages within the materiel domain. The five C-141 aircraft provided strategic airlift between Kenya and bases in Europe and Northern Africa while the 41 assigned C-130 aircraft focused primarily on tactical airlift between Mombasa and Mogadishu (Haulman 1998, 331). This abundance of aircraft enabled the coalition operational flexibility and materiel advantage in order to accomplish the humanitarian shaping operation.

The leadership aspect of Operation Provide Relief demonstrates the challenges of achieving unity of command due to the imposition of political caveats. When President Bush ordered the initiation of Operation Provide Relief in August 1992, he appointed Brigadier General Frank Libutti as commander of the Joint Task Force (Haulman 1998, 331). While General Libutti maintained operational control of his military assets, the coalition was unable to permeate civil constraints placed by the Somali factions. The

significant political bureaucracies within the U.N. and Somalian governments prevented rapid action by coalition forces. This inaction culminated with the inability of the coalition security from leaving the airport and defending the convoys (Lyons and Samatar 1995, 7). General Libutti's inability to adjust rules of engagement to provide requisite security ultimately prevented mission accomplishment; "fighting erupted over the meager food supplied and introduced new elements of animosity and violence" (Sahnoun 1994, 17). The leadership structure of Operation Provide Relief demonstrates the importance of ensuring commitment and empowerment by political echelons to achieve unity of command.

Operation Provide Relief lacked flexibility and scalability in the personnel domain. When the U.N. Security Council Resolution authorized force in July 1992, the proposal directed a humanitarian relief mission for southern Somalia; President Bush then directed the emergency airlift with security provided by 500 peacekeepers (Hirsch and Oakley 1995, 24). While this number of personnel initially sufficed to provide required effects, complications in security and escalation in the crisis "it quickly became apparent that even a sustained airlift would have too low a rate of effectiveness to reverse the situation" (Hirsch and Oakley 1995, 25). An additional issue facing the coalition was the lack of host nation integration with the Somali military and organic civil organizations (Lyons and Samatar 1995, 67). Despite the limited effectiveness of the airlift, the coalition did not increase the number of personnel to provide requisite distribution security. After five months, the U.N. and U.S. leadership finally terminated the failed shaping operation and commenced Operation Restore Hope by deploying 40,000 soldiers with the objective of suppressing Somali gangs and helping relief

agencies distribute supplies (Haulman 1998, 333). The inability to increase personnel and scale operations to achieve required effects significantly impaired the personnel domain of Operation Provide Relief.

The facilities domain, the final DOTMLPF field, was not ideal during Operation Provide Relief. “The rate of airlift deployments to Somalia was constrained by the small size and poor quality of airfield facilities there” (Kassing 1994, xiii). These marginal facilities and airfield conditions in Somalia limited deliveries as “actual deliveries in the first six weeks were less than 30 percent of the estimated 85,000 tons” (Kassing 1994, 23). Despite these facility limitations, coalition forces demonstrated the ability to provide significant quantities of humanitarian supplies anywhere in the world with the successful delivery of 23,321 metric tons of relief cargo (Haulman 1998, 331).

The DOTMLPF analysis of Operation Provide Relief demonstrates the critical relationship between clear strategic guidance and definable tactical means. The lack of a defined mission identified in the doctrine domain permeated all other domains negatively affecting the mission and ultimately resulting in operational failure. The organization domain validated the importance of unity of effort while also demonstrating the necessary role of ground security and armed protection in order to execute an airlift. The organizational and leadership structure must empower flexibility by military leaders to modify rules of engagement through political expedience rather than bureaucratic obstacles. This requisite flexibility affects the personnel domain, as leaders must be able to adjust the operational size through scalability and representation in order to meet mission requirements. The necessary components of flexibility and scalability are direct results of unity of effort by political and military components empowered with clear and

defined strategic direction. Table 3 depicts the DOTMLPF domains inherent to Operation Provide Relief.

Table 3. Operation Provide Relief Evaluation Criteria Analysis	
Doctrine	Ineffective design and unclear end state degraded unity of effort.
Organization	Disjointed U.N. and U.S. command structure prevented unity of command.
Training	Effective; training enabled flexibility and scalability.
Materiel	Highly effective; resources enabled airlift mission.
Leadership	Lack of authority and unclear end state degraded unity of command and prevented flexibility.
Personnel	Disjointed military and civilian personnel and interests prevented unity of effort.
Facilities	Lacking; coalition developed infrastructure throughout the mission.

Source: Developed by author.

Step 5: Qualitative Comparison Conclusions

This step of the research design compares the two case studies utilizing the DOTMLPF framework. Operation Vittles and Operation Provide Relief demonstrate the opportunities and issues associated with tactical airlift shaping operations. While neither operation flawlessly employed the components of doctrine, organization, training, materiel, leadership, personnel, or facilities, the lessons learned from Operation Vittles and Operation Provide Relief provide insight on the necessary components of future tactical airlift shaping operations.

From the doctrinal domain, Operation Vittles effectively demonstrated the importance of linking strategic ends to tactical means. The operation's planners received clear objectives and relied upon existing airlift doctrine to accomplish the resupply efforts. Conversely, Operation Provide Relief demonstrated the challenges associated with unclear operational objectives and inadequate tactical means. The coalition's inability to outline essential tasks prevented an effective operational design ultimately risking mission failure prior to execution. Operations Vittles and Provide Relief did not require doctrinal adjustments based on new threats or capabilities; instead, the missions demanded an operational design in accordance with contemporary doctrine. The doctrinal domain analysis demonstrates that tactical airlift shaping operations require clearly defined strategic ends, appropriately apportioned tactical means, and commensurate ways linking the resources to the desired end state.

The qualitative comparison of the organizational domains of Operations Vittles and Provide Relief unveils the importance of unity of effort and the corresponding benefits of delineated organizational structures. Whereas Operation Vittles did not employ a singular command structure, the airlift did achieve unity of effort with all international, joint, and civilian agencies operating with similar objectives and operational focus. Conversely, Operation Provide Relief effectively consolidated military forces with interagency representation under a single Joint Task Force. Operation Provide Relief suffered from a lack of Somali host nation integration as well as a comprehensive inability to achieve unity of effort by coalition forces. This failure to achieve unity of effort stems from lacking strategic guidance as well as administrative failures to adjust organizational roles based on humanitarian requirements. Operations Vittles and Provide

Relief demonstrate the critical importance of unity of effort in uniting the organizational domain while simultaneously underscoring the requirement for flexibility in task organization in order to accomplish mission objectives.

The training domain of Operations Vittles and Provide Relief demonstrates adequate military preparation and flexibility by military and civilian participants. The rapid pace of Operation Vittles' initiation strained coalition human resources to scale airlift tactics, techniques, and procedures to the massive scale required to resupply West Berlin. Despite this strain, the military training of aircrews and military ground personnel proved adequate in achieving Operation Vittles' desired end state. Operation Provide Relief demonstrated similar indicators of training adequacy as aircrews and ground personnel accomplished required tasks with minimal training issues. While both operations demonstrated adequate training capabilities, the nature of humanitarian airlift operations is highly integrated amongst coalition, joint, and interagency personnel. This requirement highlights training opportunities potentially improving airlift execution during both Operation Vittles and Provide Relief.

Qualitative comparison of the materiel domains of Operations Vittles and Provide Relief demonstrates adequate military resources for mission execution as well as operational flexibility associated with materiel superiority. Operation Vittles overcame materiel shortages through broad scale mobilization of coalition air force assets while relying upon innovation by military and civilian personnel until sufficient resources arrived to sustain the airlift. While the tactical airlift assets at the commencement of Operation Vittles did not exhibit technological superiority or significant payload advantage, the aircraft inventories and innovations employed during mission execution

ensured mission success. Unlike the initial materiel shortages during Operation Vittles, Operation Provide Relief received sufficient materiel allocations throughout the airlift's duration. Throughout the Somali airlift, coalition forces enjoyed technological superiority with aircraft and humanitarian supplies. Comparing the two case studies through the materiel domain reveals the limitations inherent to aircraft and technology alone and a necessary reliance on the personnel domain for effective humanitarian airlift functionality.

The leadership domains of Operation Vittles and Operation Provide Relief underscore the requirement for unity of command with consolidated command structures. While Operation Vittles did not operate under a single coalition command structure, the appointment of General Tunner as the lead authority for the airlift as well as the streamlined task delegation from coalition political strategy to military execution authority ensured functional capitalization of unity of command. Coalition, joint, and interagency assets throughout Europe effectively integrated under General Tunner's command therein ensuring unity of effort. While Operation Provide Relief also achieved military unity of command under General Libutti, the operation did not streamline civilian leadership components therein obfuscating political objectives and overall strategy. The political and military leaders of Operation Provide Relief failed to synchronize efforts ultimately degrading operational effectiveness. The qualitative comparison of Operations Vittles and Provide Relief demonstrates the critical importance of coordinated and integrated leadership structures to capitalize upon unity of command with clear strategic guidance and clearly delineated command structures.

The personnel domains of Operation Vittles and Operation Provide Relief reveal the essential linkages between international, joint, inter-organizational, multinational, and host nation personnel conducting tactical airlift shaping operations. Operation Vittles effectively employed air, ground, and civilian personnel to conduct the sustained airlift operation. Overcoming the logistical challenges in resupplying West Berlin demanded joint and coalition integration for all aspects of movement and packaging supplies while host nation leaders in West Berlin ensured distribution success. Operation Vittles relied equally on air and ground forces for protection, maintenance, and rigging. By capitalizing on the full spectrum of personnel in the coalition, Operation Vittles achieved mission success. Conversely, the personnel domain of Operation Provide Relief failed to balance the components of air forces, military ground forces, interagency, and host nation personnel. The inability by the Pakistani peacekeepers to provide security translated to distribution shortfalls. The qualitative comparison of the two case studies underscores the personnel balance needed in tactical airlift shaping operations. Successful airlift operations require representation and coordination between joint, inter-organizational, multinational, and host nation personnel.

The facilities domains of Operations Vittles and Provide Relief demonstrate the ability and flexibility of U.S. forces in executing tactical airlift shaping operations worldwide. During Operation Vittles, coalition forces overcame facility shortages and airfield limitations through ingenuity and adherence to mission accomplishment. Similarly, in Operation Provide Relief, coalition forces overcame austere airfield challenges and lacking infrastructure through innovation and ground support integration

to sustain airlift operations. Operations Vittles and Provide Relief reveal the marginal importance of facilities for accomplishing tactical airlift shaping operations.

The DOTMLPF qualitative comparison of Operation Vittles and Operation Provide Relief demonstrates the integration and interaction of the various domains and characteristics needed for effective tactical airlift shaping operations. The requisite criteria of unity of effort and unity of command through articulated strategy and operational design manifest repeatedly in differing domains. The clear end state of Operation Vittles galvanized design shortfalls and assisted in bolstering unity of effort despite materiel shortfalls and organizational challenges. Conversely, domain shortfalls only degraded the convoluted organization and strategy of Operation Provide Relief. Tactical airlift shaping operations require prudential operational design with clear objectives adhering to doctrine, organizational and personnel scalability, and coordinated political and military leadership.

Answering the Primary Research Question

The answer to the primary research question of “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” is yes. The historic case studies of Operation Vittles and Operation Provide Relief validate the relationship between tactical means and national-level strategy as well as the potential to achieve strategic ends through airlift means. The successes of Operation Vittles and the failures of Operation Provide Relief provide the framework for understanding future requirements for establishing tactical airlift operations capable of achieving national-level strategic ends in West Africa.

The DOTMLPF analyses of Operations Vittles and Provide Relief demonstrate the range of factors influencing tactical airlift shaping operations. While each case study exhibited differing strengths and weaknesses, the overall achievement of strategic ends by tactical airlift means requires an operational design focused on optimizing all domains of doctrine, organization, training, materiel, leadership, personnel, and facilities. Understanding the historic effects of the differing DOTMLPF domains enables recommendations for future tactical airlift shaping operations.

Despite differences in operational environments, technology, and a myriad of mission variables, synthesizing Operations Vittles and Provide Relief enable an understanding of optimal DOTMLPF domains. Doctrinally, a tactical airlift shaping operation requires clear objectives resulting in a logical operational design marrying airlift means to strategic requirements. The doctrinal domain must provide transparency between strategy-makers and tactical forces in order to achieve unity of effort. Organizationally, tactical airlift shaping operations should achieve a consolidated command structure with representation from all parties including host nation elements focused on achieving unity of command. Within the training domain, tactical airlift shaping operations require capable air and ground forces able to integrate with civilian and host nation elements. Trained forces directly enable operational flexibility and scalability in order to respond to mission changes and achieve mission objectives.

Similar to the training domain, effective tactical airlift shaping operations require substantial materiel resources to achieve flexibility and scalability. Sufficient materiel resources with technological modernity ensure airlift operations will provide required

strategic effects. Materiel advantage directly correlates to increased operational tempo and airlift capacity.

Within the leadership domain, tactical airlift shaping operations require a delineated hierarchy and command structure to optimize unity of command. The commander of the mission requires empowerment of authority and responsibility of apportioned forces. The Commander must integrate military, civilian, and host nation elements to achieve unity of effort. These various forces compose the personnel domain that must unite through clear operational objectives with common purpose. Tactical airlift shaping operations cannot succeed without coordinated efforts between air, ground, and host nation forces.

The facilities domain is the final DOTMLPF criteria. This domain enables operational flexibility as well as scalability and mission tempo. While airlift forces demonstrated the ability to overcome facility shortfalls in both Operations Vittles and Provide Relief, an existing infrastructure improved airlift effectiveness. Table 4 aggregates essential DOTMLPF characteristics for tactical airlift shaping operations.

Table 4. Essential Components of Tactical Airlift Shaping Operations	
Doctrine	Logical operational design and clear end state optimizing unity of effort.
Organization	Empowered and singular command structure with host nation, joint, inter-organizational, and multinational representation enabling unity of command.
Training	Trained forces required; essential capabilities include integration with air, ground, interagency, coalition, and host nation forces enabling flexibility and scalability.
Materiel	Sufficient resources required; flexible resource options improve mission capacity.
Leadership	Single leader empowered with authority and responsibility of forces having clear objectives optimizes unity of command.
Personnel	Unified air, ground, military, civilian, and host nation personnel required for unity of effort.
Facilities	Sufficient resources required; flexible resource options improve mission capacity.

Source: Developed by author.

Summary

The data presentation and analysis of this chapter demonstrates the essential criteria for effective tactical airlift shaping operations. The qualitative comparison of Operations Vittles and Provide Relief through the DOTMLPF evaluation criteria identifies both desired and required attributes for accomplishing strategic goals with prudential tactical means. The successes and failures of these shaping operations enable the creation of a rubric for application to West African shaping. This rubric incorporates historic lessons learned with the resolved primary research question of “During Phase 0

shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” The next chapter of this thesis, chapter 5, provides a rubric for future West African shaping operations as well as conclusions and recommendations for both decision-makers and for future researchers.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Ounces of shaping have proven more effective than pounds of cure.
— Joseph Da Silva, Hugh Liebert, and Isaiah Wilson III,
American Grand Strategy and the Future of U.S. Landpower

This chapter consolidates the analysis of the study while offering recommendations based on the affirmative answer to the primary research question, “During Phase 0 shaping operations, can U.S. tactical airlift succeed in achieving national-level strategic ends in West Africa?” The conclusions section of this chapter presents a rubric for establishing effective tactical airlift shaping operations based on the screening criteria outlined in chapters 2 and 3 as well as the analysis conducted in chapter 4. Following the conclusions, the recommendations section divides into two parts focusing on recommendations for decision-makers as well as recommendations for future researchers.

Conclusions

This study determined that during Phase 0 shaping operations, tactical airlift means can succeed in achieving national-level strategic ends in West Africa. The requirements for success include four distinct screening criteria. The screening criteria are the clear identification of operational goals, mission scalability, unity of effort, and unity of command. These criteria enable a refined understanding of previous military missions while identifying indicators necessary for operational effectiveness.

While operational effectiveness cannot ensure a mission will meet strategic goals, an operational design focused on galvanizing distinct effectiveness criteria will improve the overall shaping operation. The seven criteria are doctrinal adherence, united organization, integrated training, robust materiel, empowered leadership, representative personnel, and adequate facilities. The analysis and qualitative comparison of chapter 4 enabled the understanding and refinement of these seven criteria.

Doctrinal adherence is the requirement for an operation to utilize existing principles salient to the mission while also ensuring clear linkages between strategic intent and operational objectives. Linking the desired end state to the current situation defines the doctrinal operational approach necessary for all shaping operations. The criterion of doctrinal adherence requires clarity from strategic, operational, and tactical leaders and planners to ensure intent directly translates into capability.

United organization is the requirement for a delineated hierarchy and a cohesive purpose for operation participants. This criterion requires unity of effort through joint, inter-organizational, multinational and host nation structure. Clear organization of the operational structure enables mission flexibility and scalability to overcome changes in the operational environment while still accomplishing mission requirements.

The third criterion, integrated training, unveils the requirement for military and civilian entities to establish complementary capabilities during peacetime. Joint, inter-organizational, and multinational units should practice capabilities through integrated exercises to improve interoperability during actual mission execution. Integrated training demands units constantly prepare and train for operational readiness when requirements arise. This requirement for integrated training directly corresponds to the U.S. Army

Warfighting Challenge of establishing realistic training. Incorporating joint, inter-organizational, multinational, and host nation entities in future exercises improves training effectiveness and operational readiness.

A direct enabler of effective training is the criterion of robust materiel.

Operational effectiveness directly results from available resources. Robust materiel translates the requirement for technology, equipment, and supply necessary for shaping operations. The robust aspect of the material criterion identifies the need for flexible and available resources to meet variable requirements while achieving the operation's end state.

The fifth criterion is empowered leadership. Effective shaping operations require a single leader with authority and responsibility who is empowered to adjust operations to meet a desired end state. This construct directly supports the requirement for unity of command while simultaneously focusing operational unity of effort. The empowered leader should utilize a clearly delineated command hierarchy for an integrated command structure that incorporates participating military, civilian, and host nation representation.

The leadership domain unveils the sixth criterion of representative personnel required for an effective shaping operation. Military, civilian, and host nation personnel must integrate capabilities and unite efforts toward operational objectives. Air elements cannot succeed in shaping operations without close cooperation with ground forces. The representative personnel criterion requires integration and enduring partnerships between all participants of the shaping operation. This domain directly corresponds to the U.S. Army Warfighting Challenge of developing agile and effective leaders. Effective shaping

operations require command structures and leader capabilities focused on galvanizing force capabilities through prudent commander action.

The final criterion for effective shaping operations is adequate facilities. Existing infrastructure directly enables operational functionality while identifying initial mission constraints. These constraints provide the starting framework for the execution of a shaping operation.

The seven operational effectiveness criteria directly translate into the Airlift Shaping Operations Requirements Rubric in Table 5. The rubric integrates the four screening criteria as guiding principles for the operational design while dividing the effectiveness criteria into distinct categories for mission planners. By answering the questions outlined in each section, leaders and planners can prudentially design and implement future tactical airlift shaping operations.

Table 5. Airlift Shaping Operations Requirements Rubric			
Screening Criteria:			
Are operational goals clearly identified?	Is the mission scalable?	Does the operation ensure unity of effort?	Does the operation ensure unity of command?
Effectiveness Criteria:			
Doctrinal Adherence: Does the mission utilize a clear operational design?			
United Organization: Are all entities consolidated into a delineated command structure?			
Integrated Training: Are units prepared to execute tasks alongside partner agencies?			
Robust Materiel: Do sufficient, proximate, and capable resources exist to execute missions?			
Empowered Leadership: Does a single leader have appropriate authority and responsibility?			
Representative Personnel: Are appropriate entities represented and integrated into missions?			
Adequate Facilities: Does the infrastructure support future operations?			

Source: Developed by author.

Recommendations

This section offers recommendations for decision-makers as well as recommendations for future researchers. The conclusions drawn from the research of chapter 2 and the analysis of chapter 4 provide a greater understanding of the relationship between strategic policy and tactical implementation. Specific requirements exist for future shaping operations to succeed in West Africa. Scoping recommendations to decision-makers and future researchers enables improved shaping operations in West Africa.

Recommendations for Decision-Makers

Research and analysis of tactical airlift shaping operations unveils distinct recommendations for decision-makers. Clear strategic guidance is a definitive requirement for future tactical shaping operations. This guidance should not conflict with national policy, as disparities will manifest during tactical execution. While shaping operations should flexibly respond to unforeseen changes in requirements, decision-makers will improve the likelihood of mission success through the transparent specification of operational objectives.

In order to ensure tactical airlift responsiveness and flexibility within the full range of military operations, decision-makers must continue to preserve America's tactical airlift capabilities. These capabilities include materiel and training requirements. Necessary material resources range from aircraft to stocks of humanitarian supplies. Ensuring tactical airlift functionality requires integrated training of military and civilian personnel to preserve America's tactical airlift mission.

Future exercises should incorporate air, ground, interagency, intergovernmental, and international entities focused on improving future shaping operations. These exercises should incorporate militaries and entities within West Africa to establish enduring partnerships through FID, TSC, and BPC-oriented events. An example of this partner building is Exercise Atlas Accord that took place in 2012. During this exercise, U.S. Army Special Forces operations collaborated with six African nations to teach pathfinder operations, find and mark suitable drop zones, and distribute humanitarian aid (Da Silva, Liebart, and Wilson 2014, 377). The United States should continue to focus on

building enduring partnerships during times of peace directly enabling capabilities during times of crisis.

Building enduring partnerships with complementary mission capabilities directly corresponds to the U.S. Air Force's future requirement of galvanized Rapid Global Mobility in complex operational environments (U.S. Department of the Air Force 2015, 4). Future operations in West Africa provide increased opportunities for tactical airlift to share capabilities while improving domestic and international security. Developing tactical airlift interoperability within West Africa alongside joint, inter-organizational, and multinational entities ensures the Air Force's operational agility in providing crisis response while establishing lasting capacity through enduring partnerships.

Recommendations for Future Researchers

In addition to recommendations for decision-makers, the research and analysis of tactical airlift shaping operations unveils distinct recommendations for future researchers. The research and analysis of this study focused heavily on American humanitarian crisis response. Future research should analyze preventative shaping operations to complement the responsive shaping operations in this study.

Future research should also focus on shaping operations wherein airlift was the supporting effort and how the air domain affects land and maritime shaping efforts. This vein of research offers significant potential to understand supported and supporting relationships during shaping operations. Optimizing joint skills and integrating military and civilian capabilities will improve future shaping operations.

Finally, future research should further scope shaping operations toward West African requirements. The research method taken in this study outlined the broad

concepts required for effective tactical airlift shaping operations in West Africa. Future research can explore specific African militaries, governments, and civilian organizations to refine requirements and opportunities improving future shaping operations in the region utilizing FID, TSC, and BPC events.

Final Thoughts

The opportunities inherent to shaping operations vastly appeal to politicians and military service members alike as they indicate the potential to use tools of war for peace. Shaping operations, as shown in Operation Vittles, possess the potential to remedy international crises, establish enduring partnerships, and build viable capabilities on the African continent. Conversely, as shown in Operation Provide Relief, shaping operations risk empowerment of criminal elements exacerbating international crises and destroying partnerships, ultimately resulting in an escalation of conflict. As natural disaster, political turmoil, and competing international interests continue to affect West Africa, the United States must prudentially align tactical means to strategic policy. Meanwhile, America must stand ready with capable military means to provide humanitarian options for the region as tactical airlift assets can, indeed, achieve national-level strategic ends in West Africa.

Our children may learn about the heroes of the past. Our task is to make ourselves the architects of the future.

— Jomo Kenyatta

REFERENCE LIST

- Air Force Historical Studies Office. 2015. "The Berlin Airlift: U.S. Air Force Fact Sheet." Accessed 14 December 2015. http://www.afhso.af.mil/topics/factsheets/factsheet_print.asp.
- Central Intelligence Agency. 2015. "The World Factbook: Somalia." Accessed 14 December 2015. <https://www.cia.gov/library/publications/the-world-factbook/geos/so.html>.
- Da Silva, Joseph, Hugh Liebert, and Isaiah Wilson III. 2014. *American Grand Strategy and the Future of U.S. Landpower*. Carlisle, PA: Army War College Press.
- Davison, W. Phillips. 1957. *The Human Side of the Berlin Airlift*. Santa Monica, CA: The RAND Corporation.
- Eichhorst, Thomas E. 1991. *Military Airlift: Turbulence, Evolution, and Promise for the Future*. Maxwell Air Force Base, AL: Air University Press.
- Garson, G. David. 2002. *Guide to Writing Empirical Papers, Theses, and Dissertations*. New York: Marcel Dekker.
- Hagel, Chuck. 2014. *Quadrennial Defense Review*. Washington, DC: Department of Defense.
- Ham, Carter. 2013. "Statement of General Carter Ham, USA, Before the Senate Armed Services Committee."
- Haulman, Daniel L. 1998. *The United States Air Force and Humanitarian Airlift Operations 1947-1994*. Washington, DC: Government Printing Office.
- Hirsch, John L., and Robert B. Oakley. 1995. *Somalia and Operation Restore Hope: Reflections on Peacemaking and Peacekeeping*. Washington, DC: United States Institute of Peace Press.
- Hutcheson, Keith. 1999. *Air Mobility, the Evolution of Global Reach*. Virginia: Todd Allen Printing.
- Kassing, David. 1994. *Transporting the Army for Operation Restore Hope*. Santa Monica, CA: RAND Corporation.
- Keen, P. K. 2010. "Foreign Disaster Response: Joint Task Force-Haiti Observations." *Military Review* 90, no. 6 (November): 85-92.

- Lyons, Terrence, and Ahmed Samatar. 1995. *Somalia: State Collapse, Multilateral Intervention, and Strategies for Political Reconstruction*. Washington, DC: Brookings Institution.
- Miller, Charles E. 1988. *Airlift Doctrine*. Maxwell Air Force Base, AL: Air University Press.
- Obama, Barack. 2015a. *National Security Strategy*. Washington, DC: The White House.
- . 2015b. “Remarks by President Obama to the Kenyan People.” Accessed 25 September 2015. <https://www.whitehouse.gov/the-press-office/2015/07/26/remarks-president-obama-kenyan-people>.
- Owen, Robert C., and Karl P. Mueller. 2007. *Airlift Capabilities for Future U.S. Counterinsurgency Operations*. Santa Monica, CA: RAND Corporation.
- Rodriguez, David. 2014. “Statement of General David Rodriguez, USA, Before the Senate Armed Services Committee Posture Hearing.” Accessed 25 September 2015. http://www.armed-services.senate.gov/imo/media/doc/Rodriguez_03-06-14.pdf.
- Sahnoun, Mohamed. 1994. *Somalia: The Missed Opportunities*. Washington, DC: United States Institute of Peace Press.
- Simon, Marilyn. 2011. *Dissertation and Scholarly Research: Recipes for Success*. Seattle, WA: Dissertation Success.
- U.S. Department of the Air Force. 2015. *Air Force Future Operating Concept*. Washington, DC: Government Printing Office.
- U.S. Department of the Army. 2011. *Commander and Staff Organization and Operations*. Washington, DC: Government Printing Office.
- . 2013. TRADOC Regulation 71-20, *Concept Development, Capabilities Determination, and Capabilities Integration*. Washington, DC: Government Printing Office.
- . 2015. *Army Warfighting Challenges*. Washington, DC: Government Printing Office. Accessed 26 January 2016. http://www.arcic.army.mil/app_Documents/ARCIC_AUSA-Flyer_Army-Warfighting-Challenges_08OCT15.pdf.
- U.S. Joint Chiefs of Staff (USJCS). 2010. Joint Publication 3-22, *Foreign Internal Defense*. Washington, DC: Joint Chiefs of Staff.
- . 2011a. Joint Publication 3-0, *Joint Operations*. Washington, DC: Joint Chiefs of Staff.

- . 2011b. Joint Publication 5-0, *Joint Operation Planning*. Washington, DC: Joint Chiefs of Staff.
- . 2013a. Joint Publication 3-16, *Multinational Operations*. Washington, DC: Joint Chiefs of Staff.
- . 2013b. Joint Publication 3-17, *Air Mobility Operations*. Washington, DC: Joint Chiefs of Staff.
- Williams, Darryl, Matthew Koehler, Charles Luke II, and Christopher Bowers. 2015. "Operation United Assistance: The Initial Response—Setting the Conditions in the Theater." *Military Review* 95, no. 4 (August): 75-83.